

REMARKS

The Office Action mailed August 12, 2004 has been received and carefully noted. The following remarks are submitted as a full and complete response thereto.

No extension of time is believed to be required based upon the filing of this Amendment prior to the deadline of the three-month statutory period (i.e., November 12, 2004).

Authorization is granted to charge counsel's Deposit Account No. 01-2300, referencing **Attorney Docket No. 103213-00065**, for any additional fees necessary for entry of this Amendment.

Claims 1-7 have been amended. Applicants submit that the amendments made herein are fully supported in the Specification and the drawings, as originally filed, and therefore no new matter has been introduced. Accordingly, claims 1-7 are pending in the present application and are respectfully submitted for reconsideration.

Claims 3-7 stand objected to for informalities. Claims 3-7 have been amended in response to the Examiner's objections. The objections are respectfully traversed and reconsideration is requested.

Claims 1-3 and 6 stand rejected under 35 U.S.C. § 102(e) as being anticipated by the Madathil patent (U.S. Patent No. 6,724,043). Dependent claims 3 and 6 depend from independent claim 2. The rejections are respectfully traversed and reconsideration is requested.

Independent claim 1 has been amended and recites an open-drain N-channel MOSFET comprising a drain region formed of an N-type semiconductor layer; a P-type impurity diffusion layer formed within the drain region; two high-concentration N-type impurity diffusion layers formed within the drain region so as to sandwich the P-type impurity diffusion layer; a low-

concentration N-type impurity diffusion region formed in contact with the drain region; and a drain electrode connected to the P-type impurity diffusion layer and to the two high-concentration N-type impurity diffusion layers. Independent claim 2 has been amended and recites a semiconductor integrated circuit device comprising, in pertinent part, an open-drain N-channel MOSFET as claimed in amended claim 1. Applicants respectfully submit that such is neither disclosed nor suggested in the Madathil patent.

With reference to Fig. 1, the Madathil patent merely discloses cathode cells comprising, in pertinent part, a shallow P base 32 diffused into N well 22 and a P+ region 34 diffused to penetrate below the base 32 and project into region 22. To each side of region 34 a respective N+ emitter region 36a, 36b is diffused into P base 32, each region forming a non-rectifying junction with the P+ region 34. To each side of emitter region 36a and 36b a portion 32a, 32b respectively of P well 32 emerges to provide a channel for a cathode MOS transistor. Nowhere does the Madathil patent disclose or suggest an open-drain MOSFET comprising, in pertinent part, a low-concentration N-type impurity diffusion region formed in contact with the drain region, as claimed in the present invention. In the present invention, such low concentration N-type impurity diffusion region contributes to greatly enhancing the withstand voltage of MOSFETs. Accordingly, it is respectfully submitted that the Madathil patent fails to disclose or suggest the open-drain N-channel MOSFET, as claimed, or a semiconductor integrated circuit device having the same.

Based upon the forgoing, Applicants respectfully submit that each and every element recited within independent claims 1 and 2 is neither disclosed nor suggested by the Madathil patent, and therefore claims 1 and 2 are patentable and in condition for allowance. Reconsideration is requested.

It is further submitted that dependent claims 3 and 6 are also patentable and in condition for allowance due to their dependency upon independent claim 2, since the dependent claims differ in scope from the corresponding parent claim. Dependent claims 3 and 6 depend from independent claim 2, and thus are further limited to additional features of the invention. Therefore, it is respectfully submitted that dependent claims 3 and 6 are patentable over the Madathil patent for at least the reasons set forth above with respect to independent claim 2. Reconsideration is requested.

Claims 1-3 and 5-6 stand rejected under 35 U.S.C. § 102(e) as being anticipated by the Cheng et al. patent (U.S. Patent No. 6,576,934). Dependent claims 3 and 5-6 depend from independent claim 2. The rejections are respectfully traversed and reconsideration is requested.

With reference to Fig. 6, the Cheng et al. patent merely discloses an embedded SCR protection device 60 comprising a semiconductor wafer with a p-substrate 21. Implanted in p-substrate 21 are a first n+ and a second n+ diffusion 616 and 628. Between drains 620 and 624 is implanted a first p+ diffusion 622. Drains 620 and 624 and p+ diffusion 622 are all connected by conductive means to chip pad 38. An n-well 612 is implanted in p-substrate 21, n-well 612 extending from halfway under n+ drain 620 to halfway under n+ drain 624. As with the Madathil patent as set forth above, nowhere does the Cheng et al. patent disclose or suggest an open-drain N-channel MOSFET or a semiconductor integrated circuit device having the same, comprising, in pertinent part, a low-concentration N-type impurity diffusion region formed in contact with the drain region, as claimed in the present invention. Accordingly, it is also submitted that the Cheng et al. patent does not disclose or suggest the open-drain N-channel MOSFET or the semiconductor integrated circuit device, as claimed in the present invention.

Based upon the forgoing, Applicants respectfully submit that each and every element recited within amended independent claims 1 and 2 is neither disclosed nor suggested by the Cheng et al. patent, and therefore claims 1 and 2 are patentable and in condition for allowance. Reconsideration is requested.

It is further submitted that dependent claims 3 and 5-6 are also patentable and in condition for allowance due to their dependency upon independent claim 2, respectively, since the dependent claims differ in scope from the parent claims. Dependent claims 3 and 5-6 depend from independent claim 2, and thus are further limited to additional features of the invention. Therefore, it is respectfully submitted that dependent claims 3 and 5-6 are patentable over the Cheng et al. patent for at least the reasons set forth above with respect to independent claim 2. Reconsideration is requested.

Dependent claims 4-5 and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Madathil patent. In addition, dependent claims 4 and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Cheng et al. patent. Dependent claims 4-5 and 7 depend from independent claim 2. The rejections are respectfully traversed and reconsideration is requested.

With reference to the above arguments concerning the independent claims, it is further submitted that the Madathil patent does not disclose the content of dependent claims 4-5 and 7 and that the Cheng et al. patent does not disclose or suggest the content of dependent claims 4 and 7, all of which depend from independent claim 2. As acknowledged by the Examiner, neither the Madathil patent nor the Cheng et al. patent "teach exact the shape and the pattern of the peripheral portions of the drain region and a source region and the gate ... the shape and the pattern differences are considered obvious design choices and are not patentable unless

unobvious or unexpected results are obtained from these changes." The Examiner proceeds "that these changes produce no functional differences and therefore would have been obvious." However, giving the drain and source different shapes help further increase the area efficiency. Since the Madathil patent and the Cheng et al. patent do not appear to disclose or suggest such a function, it is respectfully submitted that dependent claims 4 and 5-7 are also patentable over each of the Madathil patent and the Cheng et al. patent. Nor are such obvious design choices, as suggested by the Examiner. Reconsideration is accordingly requested.

It is further submitted that dependent claims 4-5 and 7 are also patentable and in condition for allowance due to their dependency upon independent claim 2, since the dependent claims differ in scope from the corresponding parent claims. Dependent claims 4-5 and 7 depend from independent claim 2, and thus are further limited to additional features of the invention. Therefore, it is respectfully submitted that dependent claims are patentable over each of the Madathil patent and the Cheng et al. patent for at least the reasons set forth above with respect to independent claim 2, and further for the reasons as set forth above with respect to the dependent claims. Reconsideration is requested.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact the Applicant's undersigned

counsel at the telephone number, indicated below, to arrange for an interview to expedite the disposition of this application.

Dated: October 26, 2004

Respectfully submitted,



Marylee Jenkins
Registration No. 37,645
Attorney for Applicants

Customer No. 004372
ARENT FOX, PLLC
1675 Broadway
New York, New York 10019
Tel: (212) 484-3928
Fax: (212) 484-3990

MLJ/my